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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,837

06/27/2005

Hiroshi Kanno

Q88713

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23373 7590 10/15/2008  
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EXAMINER

CHUANG, ALEXANDER

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,837	<b>Applicant(s)</b> KANNO ET AL.	
	<b>Examiner</b> Alexander Chuang	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 4-5 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/30/2007, 6/27/2005</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

**SEPARATOR FOR NON-AQUEOUS ELECTROLYTE CELL**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al (JP 2002-256093).

As to claim 1, Yamaguchi et al disclosed a porous film comprising polyphosphazene (abstract) for a separator of a lithium ion battery (paragraph 97).

As to claim 2, Yamaguchi et al disclosed a porous film comprising 0.1-30% of polyphosphazene (abstract)

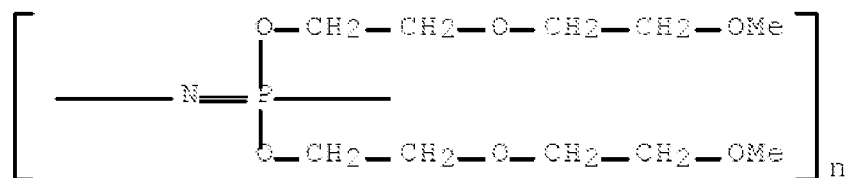
As to claim 8, Yamaguchi et al disclosed a porous film comprised of a high-molecular-weight polyolefin resistor (abstract).

As to claim 9, Yamaguchi et al disclosed specifically ultra-high-molecular weight-polyethylene resin is used (paragraph 19).

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4. Claims 1, 3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yun et al (WO/2001/091219).

As to claim 1, Yun et al discloses a lithium secondary battery comprising a porous polymer separator film (abstract). The reference states poly[bis(2-(2-methoxyethoxyethoxy))-phospagene] is an example of a polymer used for forming the porous polymer separator film (page 8). This polymer has a formula of:



As to claim 3, R is the ether group (-O-CH<sub>2</sub>-...-OMe) as described above. Yun et al. do not specifically disclose the viscosity of the compound at 25°C. However, it is the position of the examiner that such property of the compound is inherent, given that the phosphazene derivative disclosed by Yun et al. and the present application having the same chemistry and composition. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. In re Robertson, 49 USPQ2d 1949 (1999).

As to claim 6, R is the ether group (-O-CH<sub>2</sub>-...-OMe) which is monovalent substituent. As to the physical properties of the phosphazene derivative as recited in claim 1, it is noted that the polymer is sprayed onto a substrate (abstract). Clearly, the phosphazene derivative cannot be viscous; otherwise it will be impossible to spray the polymer.

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*Allowable Subject Matter*

5. Claims 4-5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 4 would be allowable because the prior art does not disclose or suggest a separator for a non-aqueous electrolyte cell, wherein the phosphazene derivative of the formula (II) is a phosphazene derivative represented by the following formula (III):

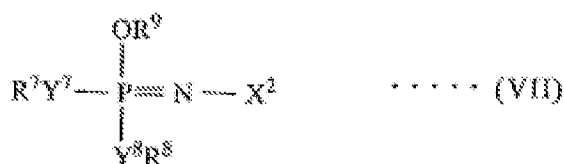
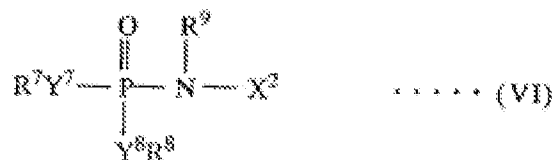


Claim 5 would be allowable because the prior art does not disclose or suggest a separator for a non-aqueous electrolyte cell, wherein the phosphazene derivative of the formula (II) is a phosphazene derivative represented by the following formula (IV):



Claim 7 would be allowable because the prior art does not disclose or suggest a separator for a non-aqueous electrolyte cell, wherein the isomer of the phosphazene derivative is an isomer represented by the following formula (VI) and of a phosphazene derivative represented by the following formula (VII):

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### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Chuang whose telephone number is (571)270-5122.

The examiner can normally be reached on Monday to Thursday 8:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571)-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AC

Alexander Chuang

Patent Examiner GAU 1795

October 14<sup>th</sup> 2008

/Dah-Wei D. Yuan/

Supervisory Patent Examiner, Art Unit 1795